



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,131	10/30/2001	Naoto Matsunami	16869P-036100US	8042
20350	7590	02/17/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			NGUYEN, MIKE	
		ART UNIT		PAPER NUMBER
				2182

DATE MAILED: 02/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/004,131	MATSUNAMI ET AL.	
Examiner	Art Unit		
Mike Nguyen	2182		

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 02 December 2004.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 6-16 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 6-16 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
 Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____

5) Notice of Informal Patent Application (PTO-152)

6) Other: _____

DETAILED ACTION

Notices & Remarks

1. Applicant's Amendment 12/02/2004 in response to Examiner's Office Action has been reviewed. The following rejections now apply.
2. Claims 6-16 are pending for the examination.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 6-12 and 14-16 are rejected under 35 U.S.C. 102(e) as being anticipated by Schubert et al. (U.S. Pat. No. 6,460,113 B1).

As to claim 6, Schubert (U.S. Pat. No. 6,742,034 B1) teaches a storage system (see fig. 1) comprising:

a set of plural disk drive units (storage pool 52);
a plurality of controllers (servers 38-40) coupled to at least one computer (clients 34) via a network (computer network 32);
a connection unit (Fibre Channel switch 48) connected between said single pool of disk drive units and said plurality of controllers, said connection unit configured such that any of said controllers can communicate with any of disk drive units (col. 3 line 64 to col. 4 line 9 and col. 4 lines 24-40); and

wherein each of said plurality of controllers comprises:

 a first circuit in data communication with at least one computer (col. 4 lines 26-40

 wherein the servers 38-40 receive data from the computer network 32 so that servers 38-40 inherently have a circuit to communicate with clients 34 through the computer network 32);

 a second circuit in data communication with said disk drive units (col. 4 lines 26-40 wherein the servers 38-40 store and retrieve data from the storage pool 52 so that servers 38-40 inherently have a circuit to communicate with the storage pool 52);

As to claims 7 and 14, Schubert teaches one of said plurality of controllers is a disk controller comprising a first circuit accepting access from a computer through a block I/O interface, and another one of said plurality of controller is a file server comprising a first circuit accepting from a computer through a file I/O interface (col. 2 line 63 to col. 3 line 33).

As to claim 8, Schubert teaches a storage system according to claim 7 wherein a second circuit of each of said plurality of controllers is a fibre channel controller (col. 2 line 63 to col. 3 line 33).

As to claim 9, Schubert teaches a storage system according to claim 6 wherein each of said plurality of controllers determines which of said plural disk drive unit is accessible (col. 4 lines 26-40).

As to claim 10, Schubert teaches a storage system according to claim 9 wherein each of said plural disk drive units holds identification information identifying at least one of said plurality controllers, and each of said plurality of controllers determines which of said plural disk drive units is accessible based on the identification information held in each of said plural disk drive units (col. 4 lines 26-40).

As to claim 11, Schubert teaches a storage system according to claim 10 wherein each of said plural of disk drive units hold said identification information in a specific storage area in the disk drive unit (see col. 4 lines 30-33).

As to claim 12, Schubert teaches a storage system according to claim 11 wherein each of said plurality of controllers searches identification information in a specific storage area in each of said plural of disk drive units, and determines which of said plural disk drive units is accessible based on the detected identification information (col. 4 lines 26-40).

As to claim 15, Schubert teaches a storage system according to claim 12 wherein each of said plurality of controllers performs the determination during system initialization (col. 4 lines 41-46).

As to claim 16 Schubert'113 teaches a storage system (fig. 2) comprising:
a single storage pool comprising a plurality of disks (storage pool 52 includes a combined controller/storage 54 and additional storage 56);

at least one disk controller (servers 38-40) accepting an access through a block I/O interface, said at least one disk controller comprising a first circuit for communication with a computer, and a second circuit coupled to said storage pool (col. 2 line 63 to col. 3 line 33 and col. 4 lines 26-40 wherein the servers 38-40 receive data from the computer network 32 and store and retrieve data from the storage pool 52 so that servers 38-40 inherently have a circuit to communicate with clients 34 through the computer network 32 and a circuit to communication with the storage pool 52);

at least one file server (servers 38-40) accepting an access through a file I/O interface, said at least one file server comprising a third circuit for communication with a computer, a fourth circuit coupled to said storage pool (col. 2 line 63 to col. 3 line 33 and col. 4 lines 26-40 wherein the servers 38-40 receive data from the computer network 32 and store and retrieve data from the storage pool 52 so that servers 38-40 inherently have a circuit to communicate with clients 34 through the computer network 32 and a circuit to communication with the storage pool 52); and

a disk pool connection unit connected to said second unit, said fourth circuit, and said plurality of disks of said storage pool, wherein each of said disk controller and said file server determined which of said plurality of disks in said storage pool is accessible (col. 3 line 64 to col. 4 line 9 and col. 4 lines 24-40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schubert'113 in view of Schubert et al. (U.S. Pat. No. 6,742,034 B1).

As to claim 13, Schubert'113 fails to explicitly teach a disk pool management unit.

Schubert'034; however, teaches the disk pool management unit coupled to said plural disk drive units and a management console, wherein said disk pool management unit stores identification information identifying at least one of said plurality of controllers into a specific storage area in each of said plural disk drive units based on an input from said management console (fig. 2 elements 20, 65 col. 5 line 63 to col. 6 line 45). It would have been obvious to a person of ordinary skill in the art to have the disk pool management unit in order to provide faster access to the data and the ability to share pooled data among a large number of users (col. 1 lines 23-29).

Response to Arguments

7. In response to the applicant's arguments that Schubert'113 reference discloses "the Fibre Channel switch is not coupled between the set of plural disk drives units 56 and the storage controller 54, but is coupled between storage controller 54 and servers 38, 40". Fig. 2 storage spool 52 Fibre Channel switch 48, servers 38-40 col. 3 line 64 to col. 4 line 9 and col. 4 lines 24-40 clearly indicates that the Fibre Channel switch 48 (the connection unit) is coupled between the servers 38-40 (controllers) and the storage pool 52 (combined controller/storage 54 and additional storage 56). The servers 38-40 can be interpreted as controllers because the servers 38-49 couples to clients 34 (computers) through computer network 32 and the servers 38-40 use Fibre Channel Protocol through Fibre Channel switch 48 to stored data on the storage pool 52

and use SCSI addressing methods to store and retrieve data from storage pool 52. Therefore, the Fibre Channel switch 48 is coupled between the controllers 38-40 and the storage pool 52.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Nguyen whose telephone number is 571 272-4153. The examiner can normally be reached on 8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571 272-4146. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 2182

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mike Nguyen
Patent Examiner
Group Art Unit 2182

02/16/2005



JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100